STATEMENT OF THE LEGAL AND FACTUAL BASIS FOR THE TERMS OF THE PROPOSED PERMIT **[1203(B)(1)(a)(i)]**

Combined TITLE V/IV - FEDERAL OPERATING PERMIT
BLYTHE ENERGY, LLC

Federal Operating Permit/Acid Rain Permit #: 130202262

30-day Public Notice start Date: (April 17, 2007)
Submittal Date to EPA: April 17, 2007
Issue date: June 04, 2007
Re-Issue: June 04, 2012

Processing Engineer:

Samuel J. Oktay, PE
Lead Air Quality Engineer

A. FACILITY IDENTIFYING INFORMATION:

Owner/Company Name:	BLYTHE ENERGY, LLC
Owner Mailing Address:	BLYTHE ENERGY, LLC P.O. BOX 1210 BLYTHE, CA 92226
Facility Name:	BLYTHE ENERGY, LLC
Facility Location:	BLYTHE ENERGY, LLC 385 N Buck Blvd Blythe, CA 92225
MDAQMD Federal Operating Permit Number:	130202262
MDAQMD Company Number:	1302
MDAQMD Facility Number:	02262
Responsible Official:	Mr. Nathan Hanson
Title:	Asset Manager
Phone Number:	212-615-3456
Facility "Site" Contact:	Charlyn Mosley
Title:	Environmental Specialist
Phone Number:	(760) 831-2651
Alternative Facility "Site" Contact:	Ms. Kathy French
Title:	Asst. VP, Envr
Phone Number:	636-532-2200
Nature of Business:	Electric Power Generation
SIC Code:	4911 – Electric Power Generation
ORIS Code:	0329 – Phase II Acid Rain Source
Facility Location:	UTM (m) 714609 (E) / 3721719 (N)

STATEMENT OF THE LEGAL AND FACTUAL BASIS FOR THE TERMS OF THE PROPOSED PERMIT **[1203(B)(1)(a)(i)]**

Statutory and Regulatory Authorities: Pursuant MDAQMD Regulation 12, Program - Federal Operating Permits, a.k.a. Title V (Adopted 7/25/94, Amended 02/22/95, Additional Rules adopted 06/28/95, 7/31/95) and 02/05/96 FR 4217 (Final Approval), in accordance with Rule 221 - *Federal Operating Permit Requirement*, 40 CFR 52.220(c)(216)(i)(A)(2) - 02/05/96 61 FR 4217 of the Clean Air Act of 1990, the Mojave Desert Air Quality Management District issues this permit.

The Title V Federal Operating Permit was developed by consulting current District Permit conditions for the existing district permitted equipment and the SIP Rule requirements for the federally applicable rules applicable to the existing compressor station. In addition the MDAQMD Title V/IV Program Rules, having received Final Program Approval from the USEPA, were also consulted.

I. BACKGROUND:

The Federal Clean Air Act Amendments of 1990 established a nation-wide permit to operate program commonly known as "Title V". MDAQMD adopted Regulation XII [Rules 1200 - 1210] and Rule 221 - *Federal Operating Permit Requirement*; [Version in SIP = Current, 40 CFR 52.220(c)(216)(i)(A)(2) - 02/05/96 61 FR 4217], to implement both the Federal Operating Permit and Acid Rain Permit programs locally and have received Final Program Approval from EPA.

This *Statement of Legal and Factual Basis,* pursuant to Rule 1203(B)(1)(a)(i), is intended to assess the adequacy of the proposed BLYTHE ENERGY, LLC Title V/IV Permit and to explain the District's basis in composing proposed combined Title V/IV - Federal Operating Permit and Acid Rain Permit.

The District's approach to the Title V/IV program is to issue a single Federal Operating Permit for the entire facility, which satisfies the federal requirement for a permit under Rule 221 [*NOTE: MDAQMD maintains separate Title V and District permits programs*]. All federal and state and most District only requirements associated with the emission of air contaminants are included in the Federal Operating Permit. All documents, which are not readily available to the public and are necessary to support the permit, are to be included. The District has taken the approach that all of the following documents are readily available to the public and, therefore, will not be included: *Code of Federal Regulations, California Code of Regulations and Health and Safety Code, District Rules and Regulations [both those which are current and those which appear in the California State Implementation Plan], and a copy of the proposed Title V Permit and Statement of Legal and Factual Basis [available at the District's office, 14306 Park Avenue, Victorville, CA 92392], all test methods, copies of District Authorities to Construct and Permits to Operate [available at the District's office].*

The USEPA, Region 9 was e-mailed a Proposed combined draft Title V/IV Permit on December 7, 2011. The USEPA statutory 45-day review period will end January 23, 2012. The 30-day Public Notice will be published December 8, 2011 and will end January 9, 2012. The Title 5 Permit will be Re-issued on or about June 04, 2012.

Facility Description:

BLYTHE ENERGY, LLC Power Plant Description:

The plant uses two F-Class Siemens V84.3A combustion turbine generators (CTGs) with dedicated heat recovery steam generators (HRSGs) to produce electricity. Inlet air to the CTGs is filtered and, during seasonally warm conditions, conditioned with chilled air supported by a mechanical draft wet cooling tower (chiller). Compressed air and natural gas are mixed and combusted in the turbine combustion chamber. Lean pre-mixed air and low-NOx combustors are used to minimize NOx formation during combustion. Exhaust gas from the combustion chamber is expanded through a multi-stage power turbine, which drives both the air compressor and electric power generator. Heat from the exhaust gas is then recovered in the HRSG.

Each HRSG is equipped with a duct burner to provide supplementary firing during high ambient temperatures to maintain constant steam production to the condensing steam turbine generator (STG). A Selective Catalytic Reduction (SCR) system is used to reduce NOx emissions. Steam is produced in each HRSG and flows to the STG. The STG drives an electric generator to produce electricity. STG exhaust steam is condensed in a surface condenser with water from the main cooling tower.

The project site has a 303 bhp emergency diesel-fueled internal combustion engine that drives a water pump for fire suppression. It also has a portable 250 bhp emergency diesel-fueled internal combustion engine that drives a water pump for fire suppression. There is also a propane fueled 114 bhp internal combustion engine that drives an emergency electrical power generator.

Rule 1203 (D)(1) outlines Title V Permit content requirements as follows:

II. TITLE V PERMIT CONTENTS [Rule 1203 (D)(1)]:

All Federal Operating Permits shall contain, at a minimum, the following terms and conditions:

A. Identification of Applicable Requirements: ***COMPLETED*** ***(see the following)***

1. Standard conditions for generally applicable requirements do not list those processes to which they apply as allowed by EPA's White Paper One, page 11, section 4, last sentence of paragraph 2.

2. Minor New Source Review (NSR). All existing permit conditions, which are based on previous authority to construct conditions, are considered applicable federal requirements

because those pre-construction review actions resulted from SIP Rule 203 - *Permit to Operate* and SIP Rule 204 - *Permit Conditions*.

3. Federal Applicable/Enforceable Requirements:
District Rule 1201 (P): "Federally Enforceable" - Any requirement, condition or other term which is fully enforceable by USEPA pursuant to the provisions of 42 U.S.C. §7413 (Federal Clean Air Act §113) or the public pursuant to the provisions of 42 U.S.C. §7604 (Federal Clean Air Act §304).
District Rule 1201 (G): "Applicable Requirement" - Any of the following requirements, including requirements that have been promulgated or approved by USEPA through rulemaking at the time of permit issuance but have future effective dates, as they apply to a Facility or Permit Unit:

(a) Any standard or other requirement contained in the applicable implementation plan for the District, and any amendments thereto, approved or promulgated pursuant to the provisions of Title I of the Federal Clean Air Act (42 U.S.C. §§7401-7515).

(b) Any term or condition of any preconstruction permit issued pursuant to regulations approved or promulgated under Title I of the Federal Clean Air Act (42 U.S.C. §§7401-7515).

(c) Any standard or other requirement under 42 U.S.C. §§7411, Standards of Performance for New Stationary Sources (Federal Clean Air Act §111); 42 U.S.C. §7412, Hazardous Air Pollutants (Federal Clean Air Act §112); and any regulations promulgated thereunder.

(d) Any standard or other requirement under Title IV of the Federal Clean Air Act (42 U.S.C. §§7651-7651o) or the regulations promulgated thereunder.

(e) Any requirements regarding monitoring, analysis, and compliance established pursuant to 42 U.S.C. §7414(a)(3), Record keeping, Inspections, Monitoring and Entry (Federal Clean Air Act §114); 42 U.S.C. §7661c(b), Permit Requirements and Conditions (Federal Clean Air Act §504); and the regulations promulgated thereunder.

(f) Any standard or other requirement governing Solid Waste Incineration Units under 42 U.S.C. §7429, Solid Waste Combustion (Federal Clean Air Act §129) and the regulations promulgated thereunder.

(g) Any standard or other requirement for consumer or commercial products under 42 U.S.C. §7511b(e) (Federal Clean Air Act §183) and the regulations promulgated thereunder.

(h) Any standard or other requirement of the regulations promulgated under Title VI of the Federal Clean Air Act (42 U.S.C. §§7671-7671q) unless the USEPA has determined that such requirement need not be contained in a Federal Operating Permit.

(i) Any national ambient air quality standard or increment or visibility requirement under part C of Title I of the Federal Clean Air Act (42 U.S.C. §§7401-7515), but only as it would apply to temporary sources pursuant to the provisions of 42 U.S.C. 7661c(e) (Federal Clean Air Act §504(e).

4. The MDAQMD confirmed the federally applicable/enforceable requirements listed in the previously issued Title V Permit. See the following discussions below:

40 CFR, Parts 60.7, 60.8 and 60.13; Subpart A - New Source Performance Standards, General Provisions: This facility is subject to the requirements of this part and was issued District Permits.

40 CFR Part 61, Subpart M - National Emission Standard for Asbestos
This facility on an as needed basis is subject to Section 61.145 through 61.147 - standards for the demolition and renovation of asbestos. Historically, the facility has been in compliance with the requirements of these standards. Appropriate conditions will be included on the permit to ensure compliance with these requirements.

40 CFR Part 82 - Protection of Stratospheric Ozone
This facility is in compliance with the requirements of this part. Any servicing of air conditioners is performed by a qualified contracting company. An appropriate condition will be included on the permit to ensure continued compliance with these requirements.

Other – Blythe Energy - Facility Support Equipment
No NSPS, NESHAPS or MACT apply to this equipment because no MACT has been proposed and the total toxic emissions are less than the applicability threshold of 10 tons per year.

B. Emissions limitations and/or standards, including operational limitations, which assure compliance with all Applicable Requirements and a reference to the origin and authority of each term or condition contained in the Federal Operating Permit: ***COMPLETED***

C. Monitoring requirements including but not limited to: [40 CFR 70.6(a)(1)] [see following] ***Various CAPCOA/CARB/EPA Periodic Monitoring Workgroup proposed Periodic Monitoring Requirements were incorporated into BLYTHE ENERGY - Title V Permit:*** The facility is exempt from 40 CFR Part 64 – Compliance Assurance Monitoring for NO_x because the facility is subject to the Acid Rain Program requirements (§64.2 (b)(1)(iii)), and will be subject to emission limitations or standards for which the Part 70 permit will specify a continuous compliance determination method (§64.2 (b)(1)(iv)) for CO.

(i) All emissions monitoring and analysis methods required by an Applicable Requirement.
(ii) Periodic monitoring, testing or record keeping (including test methods sufficient to yield reliable data) to determine compliance with an Applicable Requirement that does not directly require such monitoring.
(iii) Necessary requirements concerning use and maintenance of equipment including the installation and maintenance of monitoring equipment.

D. Record keeping requirements, where applicable, including but not limited to: [see following] ***COMPLETED***
(i) Records of required monitoring information including dates and times of sampling, operating conditions at the time of sampling, date of analysis, analytical techniques and methods, the person or company performing the analysis, and the results of the analysis.
(ii) The retention of all records for a period of at least five (5) years from the date of monitoring.

E. Reporting requirements, where applicable, including but not limited to: [see following] ***COMPLETED***
(i) Submittal of any required monitoring reports at least every six (6) months.
(ii) Prompt reporting of all deviations from permit requirements including those attributable to breakdown conditions. Prompt reporting shall be determined in compliance with District Rule 430.

F. Various Standardized Provisions and/or Conditions: [see following] ***COMPLETED***
(i) A severability clause.
(ii) A provision, which states that the permit holder shall comply with all conditions of the Federal Operating Permit. Any noncompliance constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; the termination, revocation and reissuance, or modification of the Federal Operating Permit; and/or grounds for denial of a renewal application.
(iii) A provision which states that the need to halt or reduce activity to maintain compliance with the provisions of the Federal Operating Permit, or for any other reason, is not a defense in an enforcement action.
(iv) Provisions, which state that the Federal Operating Permit may be modified, revoked, reopened, reissued or terminated for cause.
(v) A Provision which states that the filing of an application for modification; a request for revocation and re-issuance, or termination; or notifications of planned changes, or anticipated noncompliance does not stay any condition of the Federal Operating Permit.
(vi) A Provision, which states that the permit does not convey any property rights of any sort, or any exclusive privilege.
(vii) Provision which states that the Permit holder shall furnish to the District, within a reasonable time as specified by the District, any information that the District may

request in writing to determine whether cause exists for modifying, revoking and reissuing, terminating or determining compliance with the Federal Operating Permit.

(viii) A provision which states that the Permit holder shall, upon request, furnish to the District copies of records required to be kept pursuant to conditions of the Federal Operating Permit.

(ix) A provision requiring the payment of annual permit renewal fees and other applicable fees as prescribed in District Rule 312.

(x) A provision stating that no permit revision shall be required under any approved economic incentives, marketable permits, emissions trading or other similar programs provided for in the permit.

(xi) Terms and conditions, if applicable, for reasonably anticipated operating scenarios identified by the Facility in its application which require the Facility, contemporaneously with making the change from one operating scenario to another, to record in a log at the Facility a record of the scenario under which it is operating; and ensure that each alternative operating scenario meets all Applicable Requirements.

(xii) Terms and conditions, if requested by the applicant, for the trading of emissions increases and decreases within the Facility to the extent any Applicable Requirements allow for such trading without case-by-case approval. Such terms conditions shall include all terms and conditions to determine compliance with all Applicable Requirements; and meet all Applicable Requirements.

G. Compliance Conditions: [see following] ***COMPLETED***

(i) Inspection and entry requirements which require that the Permit Holder allow an authorized representative of the District to enter upon the Permit holder's premises, at reasonable times.

(ii) Provisions which allow an authorized representative of the District to have access to and copy any records that must be kept under conditions of the Federal Operating Permit.

(iii) Provisions which allow an authorized representative of the District to inspect any Permit Unit, equipment, practice, or operation regulated or required under the Federal Operating Permit.

(iv) Provisions which allow an authorized representative of the District to sample or monitor substances or parameters for the purpose of assuring compliance with the Federal Operating Permits or with any Applicable Requirement.

(v) A Compliance Plan.

(vi) A restatement, if applicable, of the requirement that the Permit holder submit progress reports at least semiannually pursuant to a schedule of compliance. Such progress reports shall comply with the provisions of District Rule 1201(I)(3)(iii).

(vii) Certification requirements including the frequency of submission, not less than annually, for Compliance Certifications.

(viii) Requirements that methods for monitoring compliance be included in the Compliance Certifications.

(ix) Requirements that all Compliance Certifications be contemporaneously submitted to USEPA.

(x) Any additional certification requirements as specified in 42 U.S.C §7414(a)(3), Recordkeeping Inspections Monitoring and Entry (Federal Clean Air Act §114(a)(3)) and 42 U.S.C. §7661c(b), Permit Requirements and Conditions (Federal Clean Air Act §503(b)) or in regulations promulgated thereunder.

H. Fugitive Emissions: ***COMPLETED***

(i) Fugitive emissions shall be included in the permit and permit conditions in the same manner as stack emissions.

III. ACID RAIN PERMIT REQUIREMENTS:

A. Combination Title V & Acid Rain permit application has been determined to be complete. The District shall prepare: [see following] ***COMPLETED***

(i) A draft Acid Rain permit in accordance with the requirements set forth in 40 CFR 72.50 (incorporated herein by this reference) unless the District denies the Acid Rain permit.

(ii) A statement of basis, which contains the elements, set forth in 40 CFR 72.64 (incorporated herein by this reference).

B. After the draft Acid Rain permit and statement of basis have been prepared, the District shall submit a copy of these documents to USEPA: ***COMPLETED***

C. Public notice and comment on the draft Acid Rain permit shall thereafter be performed pursuant to the provisions contained in District Rule 1207(A) and 1207(B): ***COMPLETED December 8, 2011; published with/as Title V Permit Public Notice]***

D. Following the close of the public comment period, the District shall incorporate all necessary changes into the draft Acid Rain permit and issue a proposed Acid Rain permit: ***COMPLETED***

E. Following the start of the re-issuance process for the proposed Acid Rain permit, the District shall submit the proposed Acid Rain permit to USEPA for review: ***COMPLETED***

F. Following USEPA review of the proposed Acid Rain permit, the District shall incorporate any required changes and issue or deny the Acid Rain permit or, in the alternative, allow USEPA to issue or deny the Acid Rain Permit pursuant to the provisions found in District Rule 1209(B): ***COMPLETED***

G. No Acid Rain permit (including a draft or proposed permit) shall be issued unless USEPA has received a certificate of representation for the designated representative of the facility containing an affected unit in accordance with 40 CFR 72.20 through 72.25 inclusive. ***COMPLETED***

H. The District shall issue, pursuant to the provisions of Rule 1210, Acid Rain permits to all facilities [BLYTHE ENERGY, LLC] containing an affected unit and subject to Phase II of the Acid Rain Program so long as:

(i) The Federal Operating Permit Program for the District has been approved, including partial or interim approval, by USEPA. ***COMPLETED***

(ii) The designated representative for the facility submitted a timely and complete Acid Rain permit application. ***COMPLETED***

(iii) Have an effective date which is the later of January 1, 2000 or where the affected unit is subject to the provisions of 40 CFR 72.6(a)(3) the deadline for monitor certification under 40 CFR 75. ***EFFECTIVE DATE SAME AS TITLE V PERMIT.***

(iv) Be reopened, not later than January 1, 1999, to add the Acid Rain Program requirements for nitrogen oxides provided that the designated representative of the facility containing an affected unit has submitted a timely and complete Acid Rain permit application for nitrogen oxides pursuant to the provisions of 40 CFR 72.21. ***NOT APPLICABLE TO THIS GAS FIRED UNIT***

(v) Such reopening shall not alter the term of the Acid Rain permit. ***NOT APPLICABLE TO THIS GAS FIRED UNIT***

(vi) An Acid Rain permit issued pursuant to Rule 1210 shall be effective for a period of five (5) years after the date of issuance. ***Same as Title V Permit, COMPLETED***

(vii) An Acid Rain permit issued pursuant to Rule 1210 shall be binding on any new owner or operator or upon any new designated representative of any facility containing an affected unit governed by the permit. ***COMPLETED***

(viii) Invalidation of the Acid Rain portion of a Federal Operating Permit shall not affect the continuing validity of the remainder of the Federal Operating permit, nor shall invalidation of any other Portion of the Federal Operating Permit affect the continuing validity of the Acid Rain portion of the Federal Operating Permit. ***COMPLETED***

IV. CONCLUSIONS AND RECOMMENDATION:

In conclusion, the proposed ***BLYTHE ENERGY, LLC* – combined Title V/IV Permit** has been found to satisfy all of the requirements of District Rule 221, Rule 312, Regulation XII Rules, and the District's Title V/IV Permit Program requirements.

It is recommended that the BLYTHE ENERGY, LLC, Title V/IV - Federal Operating Permit be issued on June 04, 2012 for another 5-year term.

Samuel J. Oktay, PE
Lead Air Quality Engineer

APPENDIX "A"

DISTRICT / SIP RULE COMPLIANCE DEMONSTRATIONS:

A. Rule 406: Owner/Operator shall not discharge into the atmosphere from this facility, from any single source of emissions whatsoever, Sulfur compounds, which would exist as a liquid or gas at standard conditions, calculated as sulfur dioxide (SO_2) greater than or equal to 500 ppm by volume.
[40 CFR 70.6 (a)(1) - Periodic Monitoring Requirements] (for Periodic Monitoring Requirements, see: Part II, section A, condition 22; Part III, section C, conditions 11 and 22; Part V, section C, condition 4; Part V, section D, condition 3; Part V, section I, condition 3)
[Rule 406 - *Specific Contaminants*; Version in SIP = 07/25/77, 40 CFR 52.220(c)(42)(xiii)(A) - 12/21/78 - 43 FR 52489, Subpart (a) only; Current Rule Version = 02/20/79]

Rule 406 specifies standard conditions, but not dry. Standard conditions for Rule 406 will be calculated as wet.

Calculate the SO_2 concentration in the diesel fueled IC engine exhaust gas using the following assumptions/calculations:

1. Maximum sulfur content of the diesel fuel is by permit condition: 0.05 % by weight.
2. Specific gravity of diesel fuel is 0.84: weight of one gallon of diesel fuel is: 8.33 lb/gal x 0.84 = 7 lb/gal.
3. Heating value of diesel fuel from U.S. EPA AP-42, Section 3.3: 19,300 Btu/lb.
4. Gallons of fuel required for 10^6 Btu: 1 lb/19,300 Btu = x lb/ 10^6 Btu: x = 51.8 lb: (51.8 lb)(1 gal/7 lb) = 7.4 gallons per 10^6 Btu.
5. Pounds of sulfur per 10^6 Btu (7.4 gallons): (7.4 gal)(7 lb/gal)(0.0005) = 0.0259 pounds.
6. Mols of sulfur per 10^6 Btu: 0.0259 lb/ 32 lb/mol = 8.09 x 10^{-4} mols.
7. Volume of SO_2 produced; assuming that one mol of sulfur produces one mol of SO_2; 8.09 x 10^{-4} mols of SO_2 are produced per 10^6 Btu of diesel burned: (385 ft^3 / mol)(8.09 x 10^{-4} mols) = 0.312 ft^3 (385 ft^3/mol is at 68 degrees Fahrenheit).
8. From 40 CFR 60, Appendix A, Method 19 the F_w factor for diesel is 10,320 wscf / 10^6 Btu (68 degrees Fahrenheit, 0 % excess O_2). Rule 406 specifies the SO_2 concentration at standard conditions, wet, not dry.

For purposes of this calculation, excess air from the combustion process will not be considered in calculating the SO_2 concentration & is the most conservative assumption:

Concentration of SO_2 at zero percent oxygen:

$$0.312\ ft^3/(0.010320 \times 10^6\ wscf) = 30.2\ ppmv$$

Conclusion: Diesel fueled IC Engine exhaust SO_2 concentration of 30.2 ppmv complies with Rule 406 SO_2 limit of 500 ppmv.

It is assumed that the SO_2 concentration in natural gas fueled IC engine exhaust gas will be conservatively less than that demonstrated above for diesel combustion:

B. Rule 409: Owner/Operator shall not discharge into the atmosphere from this facility from the burning of fuel, combustion contaminants exceeding 0.23 gram per cubic meter (0.1 grain per cubic foot) of gas calculated to 12 percent of carbon dioxide (CO_2) at standard conditions averaged over a minimum of 25 consecutive minutes.
[Rule 409 - *Combustion Contaminants*; Version in SIP = CARB Ex. Order G-73, 40 CFR 52.220(c)(39)(ii)(C) - 09/08/78 43 FR 40011; Current Rule Version = 07/25/77]

Calculate the Total Particulate Concentration in the diesel fueled IC engine exhaust gas using the following assumptions/calculations:

1. Based on U.S. EPA AP-42, Section 3.4, Table 3.4-5, the emission factor for total particulate is 0.0697 lb/10^6 Btu. (= 487.9 grains/10^6 Btu)
2. From 40 CFR 60, Appendix A, Method 19 the F_w factor for diesel is 10,320 wscf/10^6 Btu (68 degrees Fahrenheit, 0 % excess O_2). Rule 409 specifies the Particulate concentration at standard conditions, wet, not dry.

For purposes of this calculation, excess air from the combustion process will not be considered in calculating the Particulate concentration & is the most conservative assumption:

Concentration of Particulate at zero percent oxygen:

(487.9 grains/10^6 Btu) / (10,320 wscf/10^6 Btu) = 0.047 grain/ft^3

Conclusion: Diesel fueled IC Engine exhaust Total Particulate concentration of 0.047 grain per cubic foot complies with Rule 409 limit of 0.1 grain per cubic foot.

It is assumed that the Total Particulate concentration in natural gas fueled IC engine exhaust gas will be conservatively less than that demonstrated above for diesel combustion: